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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/450,491	11/29/1999	RYOICHI YOKOYAMA	YK1-0024	7688

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CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

ABDULSELAM, ABBAS L

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 04/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/450,491

Applicant
RYOICHI YOKOYAMA

Examiner
Abbas Abdulsalam

Group Art Unit
2674



☒ Responsive to communication(s) filed on Feb 14, 2002

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-16 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-16 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections 35 U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 9, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tornqvist (USPN 5133036).

Regarding claims 1 and 9, Tornqvist teaches the first electrode structure (9), luminous multilayered thin film structure (10, 11, 12), second electrode structure (13, 14). See fig 2, and 3. Tornqvist teaches about transparent second electrode structure containing parallel electrode conductors. Tornqvist also teaches that the second electrode structure is provided with a narrow stripe (14) of high electrical conductivity. Moreover, Tornqvist teaches about electroluminescent thin film structure of a display unit and the use of emission filter material. See column 1, lines 7-13, and Column 3, lines 55-65. However, Tornqvist does not specifically mention a connection conductor being used for connecting an electrode and a signal supply portion. On the other hand, Tornqvist does teach visible emissions achieved by connecting an electric field over two electrodes and light is produced in a phosphor material placed between the electrodes. See col. 1, lines 14-22.

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Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize Tornqvist's connection of an electric field between two electrodes. One would have been motivated in view of the suggestion in Tornqvist that the desired connection between an electrode and a signal supply can be achieved by connecting an electric field between two electrodes. The use of connecting an electric field between two electrodes helps produce light signals as taught by Tornqvist.

Regarding claims 3, and 11, Tornqvist teaches about a thin-film electrode layer, which is partly metallic or a metal alloy. See column 2, lines 22-33.

Regarding claims 4 and 12, see Fig 3 (13, 14)

Regarding claims 5, and 13, Tornqvist teaches about layers (10, 11, 12) between first electrode (9) and second electrode (13, 14). See Column 3, lines 45-50, and Fig 2.

Regarding claims 6 and 14, Tornqvist teaches about photolithography and HCL etching. See, column 42-45, and 60-62.

2. Claims 2, 7-8 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tornqvist in view of Ishiguro et al. (USPN 6146928).

Tornqvist has been described above. However, Tornqvist does not teach a type of thin film transistors containing a polycrystalline silicon layer, and does not disclose an external signal supply device connected to light emission panel. Also, Tornqvist does not teach conducting

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materials of conductors in connection to a gate electrode, drain electrode, and source electrode. Ishiguro on the other hand teaches about a thin film transistor containing a polycrystalline silicon layer (17) with respect to gate electrode (19), source, and drain regions (20), See Fig 2(a), and Fig 2(b), column 4, lines 60-67, and column 5, lines 1-10. In addition Ishiguro teaches about external power source (1010) connected to liquid crystal panel (1006). See Fig 17. Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Tornqvist's thin film matrix structure to include a polycrystalline silicon layer, use the same material for conductors as well as transistors, and connect an external power source to a light emission panel. One would have been motivated in view of Ishiguro that the desired polycrystalline silicon layer, external signal supply device, and the conductive material for the three electrodes (gate, drain, and source) are equivalent to a polycrystalline silicon layer, electric power source, and composing materials of a thin film transistor. The use of polycrystalline silicon layer, and electric power source, helps achieve a reliable thin film transistor as taught by Ishiguro.

Conclusion

3. The prior art made of record and not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. Pat No. 6,137,819 to Najda

U.S. Pat No. 6,361,885 to Chou

U.S. Pat No. 6,333,522 to Inoue et al.

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4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

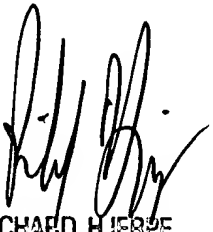
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to crustal park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Abbas Abdulsalam

Examiner

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